**Assignment No. 1**

**Data Structure and Algorithms Due Date: 08-10-2023**

Make the two folder of the the given code at

“LinkList1” & “LinkList2”

**Q No.1**

Incorporate two functions, namely "bubble\_sort" and "insert\_sort," into the "**LinkList1**" folder code suitably within the header and .cpp files.

1. The "bubble\_sort" function accepts a linked list as a parameter, applies the bubble sort algorithm, and returns the linked list with its elements rearranged in ascending order.
2. The "insert\_sort" function accepts a linked list as a parameter, applies the insert sort algorithm, and returns the linked list with its elements rearranged in ascending order.
3. Demonstrate the above functionality in main function with Ineger data type.

**Q No.2**

Incorporate following into the "**LinkList2**" folder code suitably within the header and .cpp files.

1. Write a class named “Student” having the following attributes

Name, Matric\_Marks, FSc\_Marks, Test\_marks, Interview\_Marks, aggregate\_score.

Aggregate\_score is basd on formula which calculate score from 100 as:

40% FSc\_Marks+10%Matric\_Marks+20 Interview\_Marks+30 Test\_Marks

Write all appropriate setters and getters functions of “Student” class

1. Modify the function “ void AddElement(T a), function Link List

Function should insert the student object in position of descending order of the “aggregate\_score

1. Revise the findElement(T a) function to conduct a search for an object/element using the binary search algorithm.
2. Create a function called Merit\_List that takes an integer parameter, "Number of the candidates," and prints the aggregate scores along with names of the top students